

# **FEAR FOR THE TURTLE**

**Steve Carr**

Turning a big ship around takes time, a lot of time.

Right after World War II, many people living along the waters of the Chesapeake Bay began building bulkheads to prevent their shorelines from washing away. The state even encouraged this by offering homeowners free loans to harden their shorelines. A smiling fellow named Leonard Casanova showed up on our doorstep one summer day way back in the early 70s and announced that he was from the Department of Natural Resources and the state wanted to give my mom and dad a twenty-five year interest free loan just to build a bulkhead along our eroding shoreline. We thanked him and sent him on his merry way.

By the early 80s, the state began to realize that creosote bulkheads did a jim-dandy job of corralling loose land, but they also created a wide range of environmental problems, including the release of toxic chemicals and habitat destruction.

Bulkheads eventually begat stone revetments. It took years for the government regulators to turn the bulkhead ship around and encourage the more environmentally-friendly stone walls, but by the late 80s, revetments were the standard. And true to form, the state sent Mr. Casanova back out, offering those generous interest free loans to any property owner willing to build a rock revetment. Once again, my father politely declined the offer. We liked our beach.

In the winter of 1990, I began volunteering with the Severn River Association, the nation's oldest river protection organization, and I teamed up with Billy Moulden, the President of the group, to try and turn the Revetment Ship around.

The SRA had been negotiating with the owners of Swan Point, one of the last, big stretches of beach on the Severn, trying to get them to construct what is called a "segmented breakwater" and tidal marsh, rather than an 800-foot stone revetment.

By that point, most of the Severn's shoreline had been hardened with poison wood or rock; its beaches destroyed. In the name of "riparian rights" people owning property in the 100-foot buffer of the Critical Area had been granted under the very gracious laws of the great state of Maryland, the god given right to prevent erosion, pretty much however they liked. This essentially meant that public land was being systematically given up by the state and under private ownership the shoreline of the river was fast becoming a giant rock wall.

As the point man for the SRA, I was contacted by a friendly reporter who was covering the controversy for the local paper, asking me, "Why should anyone care about this last remaining big stretch of beach?" I answered his pointed question with one of my own. "Well, the Department of Natural Resources and Bay wildlife scientists are constantly preaching the gospel that these shorelines are of great importance because of their value as habitat. They tell us these beaches are where the mother horseshoe crab has come for millennia to lay her eggs on the full moon in May. And where the mother terrapin, the state's trusty mascot, comes to lay her eggs in summer. But when there's a rock wall along the shoreline, where can these animals go to have their babies? Horseshoe crabs and terrapins used to be abundant on the Severn, they are now almost extinct. That's why we are so interested in saving this last big stretch of beach on the Severn River."

After years of site visits, meetings with the regulators, and angry stories in the local papers, the owner finally agreed to go along with the segmented breakwater idea we were pushing. He had watched as large chestnut oaks toppled from his cliff into the Severn and he figured it was time to cut his losses.

But that's when it really got weird. The key regulators from the Maryland Department of Environment (state) and the Corps of Engineers (federal) stepped in and said they would not permit the segmented breakwater because it would kill off some of the marginal underwater pondweed grasses.

After another year of wrangling, the owner decided that he would never succeed in navigating the troubled waters between the environmentalists, his hostile neighbors, and the government, so he sold his property to some Internet Barons from California.

The new owners of the Swan Point Property, immediately changed course, asked their marine engineers to go back to the drawing board and design a rock revetment that would pass muster with the regulators, and with a new plan in hand they applied for a tidal wetlands permit from the state.

Our attempts to protect the Swan Point beach eventually led us to the pilot house of the *MS*

*Revetment*, also known as the Board of Public Works.

The Board of Public Works is set up sort of like the Court of Louis the XIV. As soon as you enter the ornate meeting room on the second floor in the State House, all lined with gilt and life-sized paintings of dead white leaders from Maryland's glorious past, you figure that sooner or later you will have to bow down and kiss somebody's ring in order to get anything done.

Most people in Maryland have never heard of the Board of Public Works, and haven't the foggiest notion of what they do; which is unfortunate, because what they do is run the state of Maryland. The Board is comprised of the Governor, Comptroller, and Treasurer, and they authorize every dime the state spends. They also approve tidal wetlands licenses and the Swan Point owners were going to need a license in order to rock-up their shoreline.

And so, on a rainy Spring day, Billy and I had the great pleasure of representing the SRA before the Board of Public Works. The new owners remained in California, but sent their lawyer and engineers to toot the riparian rights horn and plead for an end to the bureaucratic stonewalling.

Their attorney, the top land use lawyer in town, concluded his presentation with a very compelling argument. "My clients have waited over three years to fix their cliff and shoreline from falling into the Severn River. They are willing and able to do *anything* this Board requires of them in order to get a permit and start work."

After three years of costly debate, I think any of us would have felt the same way. But the issue really wasn't the three years of waiting for permit approval. That's another issue and another story. No. The issue was whether there was a reasonable alternative that would allow the property owner some shoreline relief, but in a way that would not harm the environment.

And there was. The segmented breakwater and marsh.

To make our case we came armed with school children and turtles.

The school children, freshly scrubbed from Billy's middle school class at the Samuel Ogle Science Magnet School, explained to the Board the importance of habitat — not just those underwater grasses, but the beach where many animals came to lay their eggs. And right on cue, the kids broke out three excited terrapins and introduced them, up close and personal, to the three somewhat dismayed members of the Board of Public Works. It was total pandemonium.

Suffice it to say, no one — especially a politician — could say no to kids *and* turtles.

State Comptroller Schaefer, the former Mayor of Baltimore, two-term Governor of Maryland, and all around character, impatiently asked the Tidal Wetlands Administrator, "Will this segmented breakwater thing really work?"

The wetlands man said it would. "In fact, it has been done successfully at a spot right across the river from the Swan Point Property."

Governor Schaefer then waved his hand in the air like a magic wand and said, "Well now, if we can build this segmented breakwater to protect the shoreline from washing away, and *still* let the turtles and crabs get to the beach, why wouldn't we do that?"

Why indeed?

I closed the show with an appeal that brought down the house and happily won the day.

"In conclusion, we are asking for your help today, on behalf of all the Bay's helpless critters that need to, in the words of our illustrious Comptroller and former Governor, Mr. William Donald Schaefer, "*reach the beach.*"

"Reach the beach" had become Willy Don Schaefer's most famous refrain when it came to the endless struggle of trying to get people back and forth to Ocean City without backups at the Bay Bridge, and the former Governor beamed like a child when he heard it used in defense of the little turtles.

On that spring day, the *MS Revetment* started her slow turn toward segmented breakwaters and living shorelines.

But the riparian rights law really hit home a few years later when my two adjoining neighbors decided to build a big stone revetment and new piers along their shoreline.

When I was growing up, no one in my neighborhood had a dock or a bulkhead. From Ferry Point to Brice Point, the shoreline was completely unobstructed as far as the eye could see. As a kid, I used to spend most of my waking hours of every summer, exploring that shoreline with my friends. We found all kinds of magical stuff along the beach, from historic artifacts to crabs and snakes. The crabs we caught, the snakes we usually chucked rocks at.

I remember that my friends and I smoked our first cigarette below the cliff at Ferry Point Farm from a pack of Benson & Hedges menthol which I had stolen from my Dad.

On a hot summer night, I snuck my first kiss from a neighborhood girl on the beach below our cliff as the moon was just coming up over Greenbury Point.

Under the overgrown cliff where the Childs family lived, we built a really cool clubhouse made out of driftwood and debris that had washed up on the beach. We spent hours huddled inside our ramshackle pirate fort and dreamed about what we were going to be when we grew up. One summer, a friend of mine accidentally burned our clubhouse down while sneaking a cigarette. In addition to our fort, the blaze also ignited all of the vegetation growing along the Lazenby's cliff. The fire engines came and quickly put out the fire, but Fort Severn would never be rebuilt.

I found my first arrowhead while looking through the sand in front of the Orth's house. It was made from local tan quartz and was almost as long as my index finger. It was perfectly preserved, like it's carver had accidentally dropped it in that spot the day before. I'd venture to guess that my future career in archaeology with the Forest Service at Grand Canyon was probably born that day.

The shoreline from Ferry Point to the Naval Station was covered in ballast bricks and stone that had crossed the mighty Atlantic Ocean in trade ships, and old bottles washed up onto the beach almost daily. We found clay pipes from Colonial times, milk bottles from the old dairies that used to serve Annapolis, and a myriad of items lost or discarded by the inhabitants of this area long before my neighborhood or the Naval Academy ever existed.

I learned about tides by clearing away the debris from the tiny stream that trickled out of Woolchurch Cove. As we removed the wood and garbage so the stream could run cleanly, we developed a keen understanding of the subtle engineering principles at work with dams and free-flowing water. We would spend hours with long sticks, moving the flotsam out of the way, and then stand back triumphantly as we watched the little ribbon of clear water rushing bravely into the muddy Severn that swallowed it like a tasty appetizer.

The shoreline where I grew up was a window into the natural world. And as I think back on it today, I am amazed by how much my life was shaped by exploring the beach in front of my neighborhood. If I had been raised in some other place, I would undoubtedly have turned out quite different.

But you see, here's the thing: If I was growing up in the same neighborhood today, I would also turn out to be a much different person. And the reason for that is because the beach of my childhood is all gone. Not a trace of it is left.

Looking down the shoreline from my cliff, every square inch of beach has been bulkheaded or rocked in. My friend, Billy Moulden, calls this relentless process "Fortress Severn". And that's as good a name as any to describe what has been done to the river of my youth. We were so afraid we might lose an inch of our precious land, we began to armor the whole river. And after we finished rocking-up the shoreline, we built ourselves nice big docks for our boats, so that no one could ever walk along that beach again.

And when we couldn't get down to the river, we built giant siege engine-looking contraptions that fit up against the steep slopes and gave us a convenient stairway to the water. We all wanted our piece of the Severn and riparian rights paved the way.

When the notice went up at both of my neighbors' houses, advertising the fact that they were going to build rock revetments, I went to each of them and asked them to reconsider. But they said they couldn't afford to lose any more of their land. It was just too valuable to let it all just wash away. They had an investment to protect. It was their right.

So, the principle at work along every tributary of the Chesapeake Bay was really quite simple, albeit insidious. "The guy next door built a bulkhead, so we have to build a bulkhead in order to save our property from eroding away."

When I asked the tidal wetlands regulators in Baltimore how they could allow someone to do something that they knew would eventually damage my property, they told me they would get me a permit to rock in my shoreline in a snap.

“The marine contractor will be down there already, doing your neighbors’ job. We’ll do an in-house permit and he can just continue right on down the beach.”

I don’t want to sound too condemning here. There are no good guys and bad guys in this story. But I ask you all to look at what we have done to the river. I mean, if you follow this logic — or insanity — to its unnatural conclusion, you end up with a river that is entirely rocked in, with no beaches or undeveloped shoreline, other than community swimming beaches.

Riparian rights have worked quite well for the individual, but the river has been dying in the process.

For me, the choice was simple. I wasn’t going to build a rock wall. I was going to hold onto my beach for as long as I could. And, yes, it meant that I would occasionally lose a chunk of my cliff after a nasty storm. The surrounding bulkheads would undercut the cliff and soften it up for the knock-out blow. But, you know, that’s life. It comes and it goes. There were benefits. I had less grass to cut up top each year. And when the master blaster low tides of winter followed a northwest blow, you would still find me looking for arrowheads and glass bottles from our long forgotten past.

It seemed like a small price to pay.

But as I look back on those years and see the steady decline of almost every bay critter, it’s obvious that riparian right’s obscured the big picture. And apparently, the animals had no riparian rights.

Not even the Maryland Diamondback Terrapin, our state mascot and the symbol of the University of Maryland fighting terrapins, had any water rights.

Every Marylander loves the Diamondback Terrapin. From childhood on, the smiling turtle has followed us wherever we go.

The statue of mighty Testudo adorns the College Park campus and students rub his bronze shell for good luck before big games, tests, dates and who knows what else.

Testudo is not actually a Diamondback Terrapin, but rather a cute artistic rendering of some hybrid turtle that exists nowhere but in the mind of some public relations guy.

I wish I could say that I noticed this myself, but I didn’t until my friend Margie Whilden, the Turtle Lady, who follows these things a lot more closely than I do, pointed out that Testudo is all wrong. “He looks more like a box turtle,” said Margie. “You’d think that our state college would know better than to call themselves the Terrapins and then put a box turtle on their logo.”

What I find most perplexing about the Diamondback Terrapin is the fact that I have never actually seen one in the wild. Growing up along the Severn, you’d figure that I would have stumbled on to at least one of the little buggers in my lifetime, but I can’t ever recall a close encounter of any kind. I saw tons of box turtles, and Woolchurch Cove was virtually teeming with snappers and painted turtles. But Diamondbacks were a no show. And with the distinctive, brightly-colored, diamond-shaped design adorning their shell, it’s not likely you’d confuse them with anything else.

Keep in mind that over the years, millions and millions of pounds of Diamondback Terrapin were harvested for food from all around the Bay. Commercial Diamondback farms could be found on virtually every major tributary of the Bay. St. Helena’s Island, on the Severn, still sports the remains of an old Terrapin pond. Terrapin soup is considered a delicacy and during the 1800s and 1900s, there was a bustling Terrapin industry centered around the port of Baltimore, catering to the gourmet tastes of diners in the fanciest restaurants from New York City to San Francisco. The Diamondback Terrapin put the Chesapeake Bay on the culinary maps of the world long before anyone ever noticed the blue crab.

And yet most Marylanders will go their entire lives without ever actually seeing an undomesticated Diamondback.

So, what happened to all the Terrapin?

We really don’t know because there is no hard data. Back in late 90s, volunteers from all around the state – mostly school kids – were enlisted by the state Department of Natural Resources to study the Diamondback. The Governor had given his stamp of approval for a wide range of state initiatives

designed to put the Terrapin back on our radar screens, including designating May 13<sup>th</sup> as Terrapin Day.

The clearinghouse for all of the state's Terrapin programs was something called "Terrapin Station" (named after one of my all-time favorite Grateful Dead records from the 70s). Located at the Navy's Greenbury Point Environmental Center, the state Fisheries folks began cranking out all sorts of neat programs meant to educate the public about the Terrapin, including raising baby turtles so they could be reintroduced back into the Bay.

The "Turtle Tots Head-Starting" program got lots of nice press.

In addition to these feel-good programs, the state budgeted real money — not nearly enough, of course — to begin some targeted scientific studies about the Terrapin, trying to get a handle on their breeding populations, estimate their numbers in certain areas, monitor their habits, identify threats, and recommend management measures. It was a good first step. Up until then, the only people who had even the slightest idea of what was happening with the Diamondback were our local watermen.

But, in the end, we really didn't need another government study to tell us the obvious. If there once were enough Diamondbacks around the Bay to support an entire fishing industry, then it stands to reason that the Terrapin's numbers have gone down a helluva lot. Osprey, eagles, and heron prey on the Terrapin's eggs, but that wouldn't explain the almost universal disappearance of the Terrapin from the Bay.

No one wanted to admit it, but it was safe to say that we humans had a hand in this bay-wide die-off.

There were many obvious culprits, starting with all the sediment, sewerage, and pollutants we were dumping into the Bay every day. Then there was the increased boat traffic.

Propellers were grinding up untold numbers of turtles each boating season. Terrapins were still being taken illegally for their tasty meat. And crowning this lethal mix was the inexorable loss of shoreline.

Turtles need sandy beaches to lay their eggs, and by the early 80s beaches were fast becoming a thing of the past around the northern and mid-Bay. Rock revetments had turned our shorelines into one giant stone fortress, blocking access to the soft sand where turtles could bury their eggs.

The beach in front of my house was the last remaining stretch of sand between Whitehall Creek and the Academy Bridge. The south side of the Severn was even worse.

Now, if you were a Diamondback Terrapin, how would you ever find a place to lay your eggs along the Severn?

And if you tried, like one desperate mother turtle I once saw in Whitehall Bay, who actually climbed up a rock revetment and buried her eggs in a nearby lawn, you would probably have your shell bashed to bits by the boat waves hitting the breakwater as you made your way back into the water, or maybe you would get wedged into the cracks between the large stones.

We found this poor, battered mother Terrapin jammed hopelessly between two breakwater stones. She had literally scraped her left leg off trying to get free of the rocks.

So, riparian rights wasn't working out too well for the Diamondback Terrapin. And we could study turtles until the cows came home, but as long as the state continued to allow homeowners to eliminate the last remaining Bay beaches with reckless abandon, rather than require them to try a softer approach that enhanced marsh creation, we could pretty much resign ourselves to the sad fact that the Diamondback was a goner.

Terrapin is an Algonquian Indian word. And Indian creation myths from all around the world almost uniformly involve turtles in some variation on the theme of the earth resting atop the shell of a mother turtle. Unbelievers and clever sorts have always been quick to pose the question, "Well, then what does the mother turtle stand upon?"

By now the truth should be clear. They stand upon *US!*

The horseshoe crab is another animal with a very similar story, in desperate need of our support. When I was a boy growing up along the shores of the Severn River, my friends and I used to have a daily ritual. Every afternoon after school, we would walk along the beach in front of Ferry Farms and see what the tide had delivered. I can remember quite vividly that the one find that seemed almost magical was the shell of a dead horseshoe crab. We had no idea what to make of this beast. Where did it come from? None of us had ever actually seen a live horseshoe crab. Heck, it didn't even look like a crab.

And yet, every once in a while, as were patrolling the beach, one of us would spot a dark brown shell drifting lazily at the edge of the tide line and we'd rush to be the first to lay claim to one of these natural treasures. We'd triumphantly hoist it above our heads and try to make some sense of the curious creature.

How can you tell a boy from a girl?

What are all those goofy legs for?

Can it sting you with that tail?

Where is its mouth?

What does it eat?

Does it walk or does it swim?

How does it see where it's going?

Why does it need such a big shell?

What eats horseshoe crabs?

What do you think killed this one?

Many years later, I was at a meeting of the Anne Arundel Bird Club, and they had two very entertaining speakers who described the tribulations of the poor horseshoe crab in great detail. I realized that I still really knew nothing about these strange inhabitants of the Chesapeake Bay. And I suspect most folks are in the same boat. We may have seen the floating shell of a dead horseshoe crab at some point in our travels, but we still don't know anything about what makes them tick.

First off, the horseshoe crab isn't really a crab. It's related to spiders and scorpions. They do, however, molt like a blue crab about once a year, until they reach sexual maturity when they are three or four years old. From then on they wear the same shell.

The horseshoe crab has been found in the fossil record going back hundreds of millions of years, making them one of the oldest marine animals on earth.

One way to tell the males from the females is their size. The girls are much bigger than the boys.

They like to eat marine worms, razor clams, and soft-shelled clams which they dig out of the mud.

Horseshoe crabs can swim or crawl along and they travel great distances during their lives that span about 12 years. They call the ocean home, but they come into the Delaware and Chesapeake bays to spawn each year between early April and late June.

Back in the late 90s, surveys verified that there were several spawning beaches located along the Severn and South rivers.

As with so many species in the Bay, those annual surveys also began to show a dramatic decline in the numbers of horseshoe crabs.

Some folks wondered aloud why should we care about something so ugly and

worthless? What good are horseshoe crabs? "You can't eat 'em, so who cares whether there are fewer of them to go around?"

The answer to that question is perhaps the most intriguing aspect of the horseshoe crab.

In late April, when millions of horseshoe crabs line the bay beaches to spawn, something happens the likes of which can rarely be seen on this planet. It is the biggest feeding frenzy on the east coast — bar none. At the same time the horseshoe crabs are literally covering the beaches and making love by the light of the moon, millions of sea birds are leaving their wintering grounds in Central and South America. These plovers, gulls, and sanderlings begin their long trek north to their breeding grounds in the arctic, flying non-stop to the Land of Pleasant Living. They have chosen their departure date to coincide with the full moon cycle, which in turn is connected to the breeding cycle of the horseshoe crab. And without all of those horseshoe crab eggs to chow down on, many birds would not be able to fly north and breed.

Horseshoe crabs numbers reached a high in 1986 of 1.2 million. By 1996, the surveys recorded an all-time low of 400,000. To show the obvious connection between the crabs and the birds, Delaware census figures of shorebird populations also reached their zenith in 1986, only to be halved a decade later.

The loss of horseshoe crabs corresponds directly to over-harvesting.

Who eats horseshoe crabs, you might ask? If you've ever looked under the shell of a horseshoe crab you couldn't help but notice that there isn't much that looks edible. It's all spindly legs and very little meat.

So why would there suddenly be a market for horseshoe crabs?

The answer to that question leads us to the fishermen who go after eels and conch and who use horseshoe crabs for bait. As the demand in Western Europe for more eels and conch increased, the demand for horseshoe crab bait went up, and a conch fisherman uses over 500 horseshoe crabs each day!

The other thing driving the demand for horseshoe crabs was the medical industry. The blood of the horseshoe crab is like no other blood on earth. The blood has certain rare qualities that make it a favorite for eye research, as a clotting agent in surgical dressings, and in detecting infectious bacteria. Medical labs from Virginia to Massachusetts process 200,000 crabs a year, killing ten percent in the process. The final factor in the horseshoe crab's dramatic decline has been the steady loss of habitat. Horseshoe crabs have come to the Severn to spawn since long before the time of dinosaurs. But they need a sandy beach to do their thing. As we continued to bulkhead and rip-rap the entire length of the river, we were making it impossible for any living creature to leave the sea, and dooming this remarkable underwater spider known as the horseshoe crab.

In recent years, the Maryland Department of Environment has begun applying riparian rights to mean that you have the right to protect your property from eroding away, but the government can tell you to build a marsh instead of a stone wall if they determine the wave energy along your shoreline won't wash it away, which is usually the case except on the main stem rivers. This is a reasonable compromise that may still preserve the few remaining shorelines so that turtles and horseshoe crabs can bury their eggs in the sand.

It has taken almost forty years to turn the hardened shoreline ship around, and the process has taught me one very important lesson. Riparian rights have wronged a fair number of critters in the Bay for far too long. And a sturdy bridge must be built between humans and the other inhabitants of the Chesapeake so that natural rights trump every other card in the deck. It is the only way we are ever going to see the Bay flourish once again.